

Cedar River Instream Flow Commission

Final Minutes

SPU Water Quality Lab

February 4th, 2009

Organizations/Members Present:

- Seattle Public Utilities (Tom Fox, Rand Little, Karl Burton, Tom Johanson, George Schneider)
 - King County Dept. of Natural Resources and Parks (Steve Hirschey, Jeff Burkey, Curtis DeGasperi)
 - Muckleshoot Tribe (Eric Warner)
 - NOAA Fisheries (Tom Sibley)
 - Seattle City Light (Liz Ablow)
 - Washington Department of Ecology (Jay Cook)
 - Washington Department of Fish and Wildlife (Mark Hunter)
 - U.S. Fish and Wildlife Service (Tim Romanski)
 - U.S. Army Corps of Engineers (Lynne Melder, Larry Schick)
 - Guest Speakers from nhc, Inc. (David Hartley, Sam Gould)
-

- I. Call to Order:** Tom Fox called the meeting to order at 9:40 AM.
- II. Approval of Agenda:** The agenda was approved without changes.
- III. Approval of Draft Minutes:** The draft minutes from the February meeting were approved and finalized without changes.
- IV. News and Notes:** Lloyd Warren, Chair of the Board of Directors for Cascade Water Alliance (CWA), recently wrote to the Department of Ecology informing them that projected water demands for the next 15 years are less than previously anticipated. Therefore, CWA has elected to place the Lake Tapps Pipeline Project on hold. The Alliance intends to continue buying water from Seattle for projected near-term needs. CWA will update their transmission supply plan to capitalize on existing infrastructure and delay the pipeline construction for at least a decade.

Steve mentioned that Ron Simms will be moving to a federal job for HUD in Washington D.C. A general election in November will determine his replacement and an acting director will be appointed to lead King County until then.

Tim announced that the UW Water Center's Annual Review of Research will be on February 18th this year. He will forward the announcement to the rest of the IFC.

Rand mentioned that the IFC may want to consider another float of the Cedar River to see the effects of the recent flood event. Rand said that he and Karl would float the river on Friday to determine if there is a safety issue from newly deposited LWD.

V. Real Time Water Management

Hydrologic Conditions for Tolt and Cedar: Tom Fox reported that the large storm in January deposited 14 inches of rain in 3 days. This resulted in a substantial flood event. Discussion of the details of the event is the final item on today's agenda.

Chester Morse Reservoir is currently rising but SPU will begin releasing water in the next few days. Average 30-day inflows to the reservoir are near 90 percentile and during the January storm, inflows were near record levels. Flows at Renton would have reached approximately 15,500 cfs had Masonry Dam not been there to buffer the event.

In the Tolt Basin the January flood was the highest flow on record. The flood has been estimated to be perhaps as high as a one in five hundred-year event. The flows were around 17,000 cfs in the mainstem, although the flow volume would have reached approximately 25,000 cfs had the dam not been there to provide some flood relief.

The snow pack is near average in both Cedar and Tolt Basins but less than average at Stevens and Stampede Passes. There was not much snow deposited in January but lots of the water that came down as rain was soaked up by snow and stored. This phenomenon increased snow density by a factor of approximately 2.

There is not much rain or snow in the short term forecast. Flows met compliance targets and there were no downramping violations in January. M & I water consumption is relatively low and very close to last year.

Lake Washington: Lynne announced that the Corps will soon produce a report outlining the plans for a permanent fix to keep fish out of the diffuser wells. Currently, the Corps are testing an automatic saltwater drain operation and they are also releasing water through spillway 5 for steelhead attraction. The Corps will start their normal refill of the lake on February 15th. Eric asked about the volume of water passing through the Locks during the flood and Lynne answered that 5 out of 6 spillways were fully open. The sixth spillway was not operational at the time. Lynne

said that the lake raised about 7/10 of a foot and the Corps was releasing 14,000 to 15,000 cfs.

Fish Update: Rand told the IFC that the inclined plane fry trap broke loose during the flood and went under the Boeing Bridge causing considerable damage to the facility. WDFW rebuilt the trap and it was deployed and operational by Monday, February 2nd. Rand told the group that the two vulnerable Chinook salmon redds were field checked by Karl on the previous Friday. Karl found that the second shallowest redd in the river was basically non existent due to considerable scour at the site. The shallowest redd site was still holding gravel but the depth decreased and now the necessary protection flow is approximately 212 cfs as opposed to 296 cfs prior to the flood. Rand mentioned that over 350 coho had gone over Landsburg Dam this winter. Rand also said that the sockeye broodstock facility substrate rail was damaged during the flood but Gary Sprague has worked to fix the problem. Apparently, the substrate rail was scoured, bent, reburied and wrapped in razor wire. Gary dug it out and from now on SPU will likely remove the rail after sockeye collection activities are completed for the year.

Forecasts and Water Supply Outlook: Larry reported that the recent flood was a great example of an atmospheric river. The models predicted the size of the storm reasonably well but not the focus areas of the highest precipitation zones. The storm filled the Howard Hansen and Mud Mountain Dams to 74% and 65% full respectively. Prior to the flood, the reservoirs were at base levels. It has been relatively dry and cool after the storm. Larry said that the forecast for Tuesday through Thursday had the potential for more snow but, after that, the pattern becomes more robust with a prediction for higher than normal precipitation and normal temperatures in February.

VI. Update on Supplemental Studies:

Otolith Study: The initial report for the otolith study is complete and the authors will give a presentation at the March meeting.

IHA Flow Data Set: Rand reviewed the history of study topic 9a for the IFC. This topic led to the IHA study to determine the differences between regulated and unregulated flows in the Cedar before and after the dams were built. Susan Bolton helped SPU develop a study plan and in July '04 SPU had a draft work plan including an approach for developing simulated flow data sets for IHA/RVA analyses. The plan called for the use of an approach using the SEAFM model to integrate historical weather and anticipated operating procedures. Eventually, the modeling output for peak flows will be dovetailed with the peak flow adaptive management project. A couple of years ago, nhc, Inc. suggested using a STELLA based model that builds upon Seattle's existing CUE model to develop synthesized,

30-year pre- and post-development data sets of mean daily stream flow. For the past two years, nhc has been working with SPU to produce the data sets and associated information being presented to the IFC today.

David Hartley began the presentation by nhc by describing the 2 mean daily discharge data sets (pre- and post-development). The models used meteorological data from 1977 to 2006. Models were also used to predict flows on tributaries that do not have gages. David then explained the modeling efforts for the pre-development data sets including how the reservoir seepage was removed, rerouting Walsh Creek back above Landsburg and predicting ancient Cedar Lake's storage and discharge.

After David completed his part of the presentation, Sam described the post development model. He described the operating rules that were incorporated into the CUE model including operational decisions regarding the supply ratio between Cedar River diversions vs. Tolt River diversions. Basically, there were three operating scenarios including flood season, refill season and the dry season. Sam described the different parameters and thresholds that controlled operating decisions within the model. The PowerPoint presentation provided would be forwarded to the IFC.

After the presentation, Rand handed out a packet containing a number of products. He first discussed outputs from the "CUE DIV" and "SPU DIV" model runs and discussed the iterative process that was used to refine model. He also provided a number of statistical summaries assessing the model's performance in meeting HCP guaranteed flow management prescriptions and other features of the simulated 30-year post-development flow data set.

Tom F. asked the IFC to review the packet and to determine if the results were acceptable. He also said to review the Richter IHA parameter list at the back of the packet and to begin thinking about which parameters would be of greatest interest.

VII. Agenda Items for Next Meeting:

- 1) Nick Gayeski and Brian Kennedy will present their final report for the juvenile otolith testing and their proposal for analyzing the adult otoliths.
- 2) Chris Magirl will present a conceptual model for the peak flow study scope before filling in the details in a final scope document.
- 3) Review of the January peak flow event by Tom Fox
- 4) Nancy Faegenburg from King County will talk about the effects of the floods on the Cedar Rapids and other King County restoration projects.

VIII. Meeting adjourned at 1:00 PM